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ABSTRACT

The strategic plan for educational technology was developed by the Missouri Technology Task Force to assist state and local authorities in the creative application and appropriate integration of all technologies to achieve the broad educational goals for elementary and secondary Missouri schools. The specific goals and objectives of the plan ("visions") are introduced by a statement of the problem addressed, background information, a description of the methodology used by the Task Force, a list of Task Force beliefs, and a mission statement. The goals and objectives are presented under five headings: (1) Improve the Quality of Learning (provide a broad range of learning opportunities, foster higher order concepts and reasoning skills, prepare students for technology-based or related occupations, use technology for effective school functioning, provide inservice training for school personnel); (2) Ensure Equity of Opportunity (students will reach their potential regardless of district sparseness, wealth, geographical location, or physical, intellectual, or cultural differences, provide a safe and appropriate learning environment, adapt public education to meet community needs, eliminate visible tracking of students, make technology an integral part of the revision of the education system); (3) Enhanced Accountability (more efficient and effective evaluation of educational programs and students' progress, assist in improving the performance of teachers, administrators and school boards in fulfilling their responsibilities, better matching of the measurement and reporting of progress toward district objectives, more effective and efficient use of resources); (4) Foster Community Involvement (strengthen educational partnerships, provide continuing education to adults, ensure improved school/community communications and share resources); and (5) Foster Parental Involvement (eliminate communication barriers between the school and the home, encourage increased parental participation in the education process). Nine conclusions are listed and discussed, and lists of participants in the Technology Task Force planning team, open forum, and action team are provided. (DB)

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THE REPORT OF THE MISSOURI TECHNOLOGY TASK FORCE

ED343561

A ROADMAP TO SCHOOL IMPROVEMENT

A STRATEGIC PLAN FOR EDUCATIONAL TECHNOLOGY IN MISSOURI ■ OCTOBER 1990

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This report is dedicated to the future leaders of our communities, our state and our nation . . . the children of Missouri.

INTRODUCTION

Parents of today's public school students grew up in a nation which dominated the world with its unprecedented industrial and military might, brought about by technological superiority. Yet today, in a marketplace dominated by foreign interests, students in Missouri and the rest of the nation lack the basic competencies to compete in an increasingly complex and technologically dependent global community. Today's learners face challenges which society, and by assignment, the schools, must equip them to overcome. The technology that once gave the United States the edge as a global competitor is no longer unique, but it can again give this country the edge in a different arena: the learning environment.

The focus of this report is the learner. Implementation of new technologies and techniques will empower students and thus provide optimal educational opportunities for them. Teaching facts alone is no longer acceptable; we must teach learners how to think and apply knowledge practically.

The teacher, of course, plays a central role in the effective use of technology in the classroom. We must create the expectation that teachers will serve as facilitators of learning, not simply disseminators of information.

We believe Missouri's schools can achieve national prominence by asserting their leadership in the use of technology. Some Missouri school districts are well on their way toward achieving this distinction. Others are only beginning to explore the possibilities technology has to offer.

The report of this Task Force reflects the collective efforts of individuals committed to excellence in education. This report, the product of their efforts, can serve as a road map for Missouri's schools as they strive to produce motivated students who are well prepared to compete in the technology-rich society of the twenty-first century.

BACKGROUND

Problems and Issues Facing Educators

Providing equitable access to quality, free public education is a fundamental challenge faced by our society. Advanced curriculum offerings, procurement and retention of qualified teachers, local and state funding, geographic location and educational facilities are some factors that contribute to this challenge. While educational concerns and issues have been debated for many years, recent state and national reports, in addition to global factors, such as the changes in Eastern Europe and our declining effectiveness to compete in the economic arena, highlight the need for state and local authorities to reexamine our education system with an eye towards restructuring for improvement.

Curriculum and instruction should be reevaluated in light of recent events that are changing our world's geopolitical landscape, thus causing educators to consider the teaching and learning environment in a global rather than a provincial context. Geographic and even political boundaries are no longer barriers to commerce, education and the social good. The curricular impact of these changes is as yet unclear; however, support for change is expressed by the *Labor Force 2000: Corporate America Responds* report, which notes "social change [is] as fundamental as the earlier shift from farms to factories. And it requires that tomorrow's workers be equipped with new knowledge, skills and attitudes." The report *Missouri's Future is Now: Achieving Competency in Science, Mathematics, and Technology* recommends that "curricula which effectively address competency in science, mathematics, and technology must be established throughout Missouri." These and other recommendations listed by the report suggest that substantial changes are needed in our education system. Indeed, the Missouri State Board suggests that "traditional curriculum and instructional practices must be revised to focus on the achievement of desirable outcomes for all students."

In addition to the demands for an enhanced curriculum, teacher shortages have

exacerbated the problem of schools being unable to provide needed courses of study. Nationally, teachers comprise eight percent of our work force. The Missouri State Board of Education's *Missourians Prepared* report notes that in the next decade Missouri's public schools will need to hire an estimated 25,000 new teachers to replace about half of the state's current teaching force.

Beyond these concerns, by nearly every measure, Missouri's public education system is underfunded. The State Board report indicates that "despite the significant financial commitment to education by the state and local school districts, it is apparent that current funding for public education in Missouri is simply inadequate."

The combination of these forces has created apprehension among educators about the future of our public education system. In response to this concern, many national and state education agencies have initiated campaigns for educational reform. Many of these early reform movements resulted in new standards for achievement and graduation. Other school improvement proposals such as choice and the year-round school are being implemented. More dramatic changes may be looming in the future as the school restructuring movement gathers support. The Missouri State Board of Education has said that "although we are encouraged by the school-improvement efforts of recent years, it is clear that more fundamental changes will be required for schools to meet the challenges of the 1990's and beyond." (*Missourians Prepared*, 1990).

Technology as a Tool of Tomorrow

Nationally, education has been challenged to respond to the impact of these social, economic, and political changes. National reports suggest that "transformations", "reconstruction", and "revolutions" stand to alter the future of education in this country. The Office of Technology Assessment noted that "the infusion of computers and development of advanced interactive technologies coincide with troubled news about American schools, and have been hailed by many as an important catalyst for reform" (*Power On!: New Tools for Teaching and Learning*, 1988,). These reports call for changes in our schools that would incorporate technological solutions capable of bringing about more effective and efficient use of existing resources. In Missouri, the Excellence in Education Act is a key indicator of our state's progress in, and commitment to, public education. However, advancement towards excellence requires our state to examine all domains of teaching and learning, especially the tools that empower the learner and enable the teacher to extend the learning process beyond the confines of hours, walls, and a traditional place called "school."

The emergence of new technologies has the potential to reshape education. Technology has been shown to improve the quality of learning, provide more equitable opportunity and access, and ensure greater cost effectiveness. The Office of Technology Assessment concluded that "the nation's educational system may be on the brink of major change. This results both from a fundamental change in the demand for educational services and from the fact that new technology makes it possible to consider real improvements in the productivity of both teaching and learning." The study also indicates that, in combination, "these forces could change what is taught, when it is taught, where it is taught, and the nature of the teaching profession." These changes may appear to be distant, both in terms of time and geography; however, the State Board submits that "teachers of the 1990's will be expected to implement new instructional practices including new technologies."

One such new instructional practice utilizes computer technology in combination with interactive laser disk applications. This technology allows students to explore subject areas in pathways that are unique to the individual student. Hypermedia, or highly interactive instructional multimedia, and other hybrid technologies will become more important in delivering curriculum in ways that enrich the learning experience.

Another example of an enabling instructional technology growing in use nationwide is communications and satellite technology, which can provide an array of course offerings for critical shortage areas and serve to enrich existing curricula.

Educational technologies such as these can create a teaching and learning environment that synergizes the tools of technology and the talents of students and educators to achieve excellence.

Need in Missouri

Availability of potent technological tools in Missouri schools is limited. Toch reported in Education Week that, in 1983, Missouri ranked forty-second in the percent of microcomputers available for student use in schools. A comparison of studies by the Missouri Department of Elementary and Secondary Education (1986), Toch (1984), and Rienhold (1986) reveals that the availability of microcomputers in K-12 educational programs in Missouri was one of the lowest in the United States.

The Missouri legislature appropriated $2.5 million for the 1985-86 school year to fund purchases of microcomputers for instructional purposes in the state's public schools. While these funds provided for the purchase of many computers, this one-time allocation lacked adequate follow-up training and support to provide a significant influence on technology usage in the classroom. The incentive grants program included in the Excellence in Eduction Act, while not designed

specifically for technology, has contributed to the state's funding support for technology in Missouri schools. During the past 5 years this source has distributed $4.5 million annually for school improvement projects, many including the purchase of technology.

The Video Instructional Development and Educational Opportunity (VIDEO) legislation, enacted in 1989 by Senate Bill 709, was established to encourage all Missouri public educational institutions to supplement educational opportunities through telecommunications technology and satellite broadcast instruction. In the first year the VIDEO program 458 LEA's, 21 higher education institutions, and 5 public broadcasting stations applied for and received approximately $4.7 million in initial access and broadcast grants. This legislation has resulted in the purchase of an additional 400 satellite dishes capable of receiving educational programming from virtually any communications satellite. The VIDEO program will continue to distribute funding for the next four years to provide grants to school districts for the purchase of video-based educational technologies, including satellite equipment, instructional program development, and instructional programs.

Thus, technology is becoming an economic, social, and political issue, and the anticipation for change is increasing in Missouri schools. The challenge to this state's educators and policy makers is to understand the potential of all emerging technologies and provide the leadership necessary to ensure successful learning outcomes.

Need for Planning

All of the state's potential technology funding sources were implemented without a statewide technology vision. To make full progress towards district and state educational goals, schools must understand, plan, and deploy the necessary technological resources. The basis for effective utilization of education technology is careful planning at every level of the educational system. A report entitled *Thinking About Technology in Schools: A 1988 Snapshot* examined 213 technology plans and concluded that while a broad array of technologies were being planned for, most uses were not "well-articulated strategies". The report further concluded that planning efforts at the district level are substandard, noting that "technology planning clearly is a weak area of endeavor in most school districts". While the Missouri state legislature and the State Board of Education can be credited with taking steps to improve the status of technology in the schools, researcher J.D. Layton found that "Missouri is behind other states in many areas, and there are no state, district, or local education agency long range plans to guide the efficacious use of technology." The need for comprehensive planning at all levels is imperative.

STATEWIDE TECHNOLOGY TASK FORCE

t became evident through surveys and direct contact with Missouri school districts that something must be done concerning educational technology in Missouri public schools. In the face of limited funding, attempts to integrate technology into our schools by increasing awareness, providing inservice, and advocating the technology, have been disappointing.

The logical conclusion was that Missouri needed a plan for educational technology. Missouri educators lacked consensus and needed leadership regarding the best use of technology in the learning environment. Based on these findings, Education.

Purpose of Task Force

The specific purpose of this task force is to develop a strategic plan for technology that will assist state and local authorities in the creative application and appropriate integration of all technologies to achieve the broad educational goals for K-12 Missouri public schools.

Methodology

This report represents the findings of a statewide planning effort that began in April 1989 and concluded in October of 1990.

A modified strategic planning format was adopted. A Planning Team was selected to provide leadership for the overall planning effort. The Team developed a mission statement, identified five focus areas, established vision statements, and developed desired outcomes. The Planning Team included 24 individuals representing decision makers in government, business and industry, and education.

Four Action Teams were established to study the five focus areas developed by the Planning Team. The Action Teams were charged with the responsibility of developing strategies to achieve the outcomes identified by the Planning Team. Action Teams consisted of individuals

with notable expertise in the application of technology in various settings. Participants were broadly representative of various geographic and occupational sectors of Missouri.

In addition to the many planning meetings, activities of the Task Force included conducting an internal and external analysis of other state and district technology plans, as well as selected social, economic, demographic, and political data; identifying strengths, weaknesses, opportunities and threats; and soliciting input from groups outside of the immediate planning team.

An Open Forum sponsored by the Task Force provided a unique opportunity for organizations and groups to meet with the Technology Task Force and present their position statements relative to educational technology. The Open Forum was conducted on April 9th, 1990. Based on comments from Task Force members and participants, and the enthusiasm exhibited by educational support groups, the Open Forum was successful in furthering the Task Force's goal of sharing ideas, opinions, and organizational platforms.

The planning effort was greatly influenced by a collection of basic beliefs. These beliefs had a recurring impact on the planning activity and therefore represent the foundation of this report.

TASK FORCE BELIEFS

he Task Force believes that. . .

- Missouri students can be the best in the nation; that achievement at an "average" level is not, and should not be, the expected level of achievement by our students. Prominence is the only acceptable level of achievement for Missouri schools.

- Learning is a lifelong process; schools exist to provide individual learning experiences so that all learners can achieve their potential.

- Schools should provide students access to appropriate educational opportunities and resources; no student should be denied, by virtue of district sparseness, wealth or location, coursework necessary for employment or post-secondary educational pursuits.

- Schools should be accountable for learning outcomes; Missouri educators should accept the responsibility to define their goals and be held accountable for those goals.

- All citizens have a responsibility in supporting Missouri public schools; parents and communities in general have unique roles in ensuring success for all Missouri students.

- Technology will contribute to accomplishing the educational goals of Missouri; the use of educational technology in teaching and the learning environment is essential to achieving these goals.

- The actions stated in this report, if acted on, will "Improve the Quality of Learning", "Ensure Equity of Opportunity", "Enhance Accountability", and "Foster Community and Parental Involvement.

MISSION STATEMENT

Utilize technology to enable all Missouri students to achieve national prominence in learning essential skills and competencies necessary to be effective citizens, qualified members of the workforce, and lifelong learners.

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I. Improve the Quality of Learning

Vision

Technology will be fully utilized to provide a learning environment in which individuals realize their potential.

A broad range of learning options will be made available which the teacher can select to impart knowledge and skills more effectively than is possible with conventional instruction.

A Review school organization and policies and change those organizational structures and/or policies that are inconsistent with the way that learning takes place.

B Adopt minimum standards for technology configuration.

C Conduct an education technology needs assessment.

D Develop and implement a three-year plan for prioritizing needs using the results of the educational-technology needs assessment. Update the plan annually to reflect changes in technologies and needs, including the procurement and reallocation or repurposing of existing technologies.

E Implement strategies to speed the adoption and increase the use of educational technologies in the schools.

F Create demonstration centers for computer-based education, multimedia, and hypermedia applications and use multiple sources to disseminate information about educational technology.

G Provide the technological resources needed to teach knowledge, skills, and problem-solving strategies effectively and efficiently.

H Provide the training needed to use technology to teach.

I Create a statewide system dedicated to supporting the use of technology in teaching.

J Create a statewide software clearinghouse network which provides high quality instructional software at quantity discount prices.

Students will possess a new level of higher order concepts and reasoning skills.

A Implement a variety of teaching/learning approaches which incorporate various educational technologies.

B Provide immediate and uninterrupted access to educational technologies.

C Develop and implement a curriculum component which links information search, management, and presentation strategies within a problem-solving context.

Students will possess the knowledge, skills and attitudes required to be prepared for occupations that are either affected by or centered on the use of technology.

A Develop minimum technology-related competencies required for present and future occupations.

B Develop and implement a curriculum component based on technology-related competencies and focusing on applications of technologies.

C Enter into contractual agreements with technology vendors whereby upgrades can be acquired in a timely, affordable manner.

D Increase partnerships with businesses for the purpose of curriculum planning as it relates to technology, and decrease the lag time between the introduction of a technology application in the workplace and the inclusion of the application in the school curriculum.

E Create a life-cycle plan for technologies. The plan will include the issues of introducing new technologies, distributing new technologies, and recycling old, but still useful, technologies.

F Technology will enable educators to manage a learning environment in which learning is

tailored to fit each student's needs and progress is based upon prescribed levels of achievement.

G Teacher candidates will develop the knowledge, skills, and attitudes required to function in a technology-rich environment.

H Establish minimum technology-related competencies that new teachers must possess before certification.

I Develop and implement undergraduate educational technology courses which prepare teachers to function in a technology-rich environment.

J Develop and implement a technology-based curriculum component for teacher education with competencies for content areas.

K Develop a management system needed to implement mastery learning approaches.

L Implement mastery learning approaches.

School personnel at every level will recognize and take advantage of technology as a powerful array of tools that can assist in carrying out some school functions in a more effective and efficient manner.

A Identify those school functions which can be carried out in an effective and efficient manner using selected technologies.

B Establish the expectation that selected technologies will be used to carry out school functions and reward school personnel for meeting this expectation.

C Remove impediments to the use of selected technologies to carry out school functions.

D Provide the hardware, software, and support needed to reduce teachers' administrative tasks.

E Establish state-wide standards for electronic information movement and management in schools.

F Develop and implement the support systems needed to facilitate administrative automation.

In-service training will be provided to school personnel more efficiently and effectively than through traditional methods.

A Prepare school personnel to use selected technologies to carry out school functions.

B Follow-up staff development programs with additional activities related to the use of selected technologies.

C Add technology competencies to "Performance-Based Evaluations."

D Use appropriate technologies to develop teacher competencies.

E Develop and deliver graduate-level courses which focus on applications of new and emerging educational technologies.

F Evaluate the effectiveness and efficiency of staff development programs and make revisions as indicated.

2. ENSURE EQUITY OF OPPORTUNITY

VISION

Technology will be fully utilized to ensure that every learner will be provided access to appropriate educational experiences.

Students will reach their potential regardless of district sparseness, wealth, or geographic location.

A Determine varied roles of technology in enhancing basic skills development and in strengthening the curriculum.

B Identify and implement systematic and appropriate applications of technology.

C Determine a funding process based on a need to ensure appropriate levels of technology for every learner, regardless of district demographics.

D Develop various methods for distribution of information regarding the potential of technology to ensure equity.

Students will realize their potential regardless of physical, intellectual, economic or cultural differences.

A Determine and apply various roles technology serves in diagnosis of a child's potential and development.

B Develop a catalog of technology-based programs for various physical, intellectual, economic and cultural characteristics.

C Implement various learning strategies which utilize technology to allow all learners to reach their potential.

A safe and appropriate learning environment will be provided.

A Provide sufficient security of equipment to ensure an appropriate learning environment.

B Institute appropriate environmental controls utilizing advances in energy efficiency.

C Utilize monitoring equipment to prevent intrusions in the learning environment.

Technology will enable the adaptation of public education to meet the needs of the community it serves.

A Stimulate businesses and organizations to address the technology needs of the community by working in partnership with the schools.

B Develop strategies to encourage business and community organizations to utilize the technology available in the school.

C Student and adult populations will be periodically examined to determine how technology can respond to changing needs.

Technology will allow school districts to eliminate visible tracking of students.

A Identify various technology-based resources that can be used to create and monitor outcome-based education for all students.

B Provide adequate funding for technology-based resources to ensure outcome-based learning is available in each school district.

C Include guidelines for technology resources in each district's school improvement plan.

Technology will be integral to the revision of the education system.

A Require state authorities to participate in program focusing on the roles of technology in the transformation of the education system.

B Increase the awareness of the roles of technology in transforming learning opportunities with higher education, community, and staff.

C Implement a plan of technological awareness that involves administrators, board members and teachers within each district.

3. ENHANCED ACCOUNTABILITY

More efficient and effective collection, analysis, and reporting of pertinent data will be used in evaluating educational programs and students' progress.

A Utilize computerized records systems to search and screen for at risk, disciplinary, home, health or other factors which may affect a student's progress.

B Enter responses to special questionnaires to assist in identification of special problems.

C Print student progress reports more efficiently from a comprehensive electronic database.

D Make data easily accessible to all appropriate parties.

Technology will be used to assist in improving performance of teachers, administrators and school boards in fulfilling their responsibility as defined in the district's operational plan.

A Districts will develop policies that will enable them to effectively and efficiently utilize technological resources.

B Maintain staff development participation information in a database.

C Use technology for decision support.

D Maintain a state-wide database for cost analysis to be made available via telecommunications for efficient acquisition of districts' needs.

E Check to see whether policies address local, state and federal guidelines and expectations. A database of guidelines should be maintained and available via telecommunications for ready reference by and within districts.

F Put the performance-based evaluation forms on a database. A model should be provided at the state level.

Technology will enable a better matching of the measurement and reporting of results to the districts' specific objectives.

A Maintain a comprehensive database for quick analysis of achievement of district-wide objectives.

VISION

Technology will be fully utilized to facilitate appropriate evaluation of students, teachers, and educational programs and to communicate the results.

A Report and analyze the individual student's, administrator's, and teacher's progress toward measurable objectives.

B Utilize technology to assess the degree to which measurable district goals are being addressed by the board of education.

C Use technology to reduce non-instructional, routine teacher and administrator tasks.

Technology will enable a more effective and efficient utilization of resources.

A Plan staff development in-service programs to acquaint faculty and staff with procedures and practices they may follow to utilize technology.

B Scan the data to identify individual student achievement problems.

C Automate library/media/computer/supply centers by using wide-area networks (WANs).

D Identify every resource which addresses every district objective.

E Automate food services and budget procedures. Enter accident reports so as to pinpoint hazardous areas of activities.

4. Foster Community Involvement

Vision

Technology will be fully utilized to involve the entire community in the educational process.

All educational partnerships will be strengthened.

A Establish a centralized repository for educational programs and materials and make the information available to all Missouri schools, businesses and communities.

B Provide a schedule of program offerings to include course listing by location.

C Index all repository items according to topic and content and place the index and items on a suitable computer for access as appropriate.

D Place this information in a computer database which could generate lists of classes offered for state-wide distribution. Individuals may, from their residence, have access to library materials stored on computers (CD-ROM or other media as appropriate) for research and other uses.

Schools and communities will share technology to provide continuing education to adults who wish to acquire new skills and knowledge.

A Establish networks between the Central Repository and all appropriate educational institutions and approved broadcast/cable/satellite networks.

B Offer educational programs and presentations for all members of their communities.

C School districts will assist in the organization of educational classes for members of the community.

D Share industry's technology and expertise with schools and the community to provide continuing education to adults and secondary students who wish to acquire new skills and knowledge.

E Increase visibility of model partnerships and promote joint educational activities at state and regional professional development conferences.

F Organize formal and informal mechanisms for sharing equipment, facilities and staff.

G Publicize educational programs through printed, video and electronic communications including related technical literacy information, health and business.

H Encourage the use of educational technology in the communities' schools and businesses.

Ensure improved school/community communications and share resources.

A Encourage the formation of partnerships between school districts and all appropriate stakeholders of education.

B Make educational audio and video recordings available to parents and the community.

C Identify individuals who have an interest in education to contact community partners.

D Demonstrate the creative use of educational technology in the community.

E Community-based planning committee will hold a meeting taking appropriate community leaders through a visioning process regarding the role of educational technology in their community.

F Emphasize the educational enterprise and educational technology as a community resource to be utilized to enhance the skill and knowledge of citizens in their private roles and in their employment or public roles.

G School personnel will make use of important community groups which may already be in place.

H Establish a toll-free number for general public use of repository.

I Establish data-links in the classrooms to the repository.

5. Foster Parental Involvement

Communication barriers between the school and the home will be eliminated.

A Establish an educational network from all Missouri school districts and public libraries to the community.

B Encourage individual residences to utilize the community educational network.

C Allow individuals to identify and utilize in their residence appropriate educational material contained in the Central Repository.

D Improve communications by giving parents and the community access to phone numbers or provide a cable program to answer educational questions and issues on cable.

Parental participation in the education process will increase.

A Strengthen the link between teachers and parents, with emphasis on mutual respect.

B Improve telephone availability by teachers in existing buildings and awareness of this need and that of data-links when planning the building of new education facilities.

C Improve communication between classroom teacher and parent via telephone.

Vision

Technology will facilitate the appropriate involvement of parents in the educational process.

D Students' parents may, through "voice mail", contact school district teachers to learn of students' progress, assignments, activities and express parental concerns.

E Open communication between teacher and parents regarding assignments, goals for the class on a regular basis.

F Develop cooperative relations with social services, businesses, community and church leaders to better reach the families.

CONCLUSIONS

The Task Force developed this plan for technology to assist state and local authorities in the creative application and appropriate integration of all technologies to achieve the broad educational goals for K-12 Missouri schools. The mission and respective visions are attainable, but only through the collective efforts of business and industry, government, and education sectors. The ultimate impact of this report will depend to a large extend on how these sectors choose to use this report to implement the following conclusions:

- All stakeholders in Missouri's public school system should seek ways they can contribute to the accomplishment of its mission.

- State authorities should provide the necessary leadership and support to ensure effective implementation of the plan.

- School districts should use this framework for the development of local plans to use technology to achieve local educational goals and as a guide for the establishment of policies on acquisition, application, and utilization of technology at the local level.

- Educators in Missouri's public schools should use this document to help create an environment where teachers function as managers of learning and utilize technology to improve the quality of learning.

- Providers of educational services and products should compare their service and product capabilities to enhance the specific outlined outcomes.

- Parents and community members should use this report to discover, strengthen and enhance their involvement in their schools.

- Higher education should prepare preservice and inservice programs for educators, to use technologies in the classroom.

- State leadership should create a financial plan for implementation of the action items proposed by the Technology Task Force Report.

- This "Roadmap for School Improvement" was perceived by the Task Force as a starting point; therefore, progress towards the destination, as defined by the Mission Statement, should be assessed on an annual basis and updated as needed.

Collectively, all sectors should be responsible for the creation of a statewide technology infrastructure. This infrastructure should include policies, support, and funding necessary to assist all schools in utilizing technology to meet the broad educational goals of our state.

The way we integrate technology into Missouri's public schools will have a profound impact on the ability of our schools to provide the highest quality education during this decade and in decades to come. But simply introducing new technologies into the classroom, without giving any thought to their relationship with the total school environment, will be a wasteful and perhaps even counterproductive exercise.

The business of educating students has become a complex enterprise. Clearly, the explosion of information has demonstrated the critical need to produce students who are capable of effectively synthesizing information in order to emerge as successful and productive citizens.

New technologies provide us with important opportunities to allow students to realize their potential. Changes are needed to create the necessary technology infrastructure in order for schools to become more effective and efficient. Technology should be an integral part of the overall public education effort; if implemented wisely, it will prepare Missouri students for the challenges they will face during the next century.

The Technology Task Force believes technology can be used to enable all Missouri students to achieve national prominence in learning essential skills and competencies necessary to be effective citizens, qualified members of the workforce and lifelong learners. The Task Force is convinced the actions proposed in this report will indeed improve the quality of learning, ensure equity of opportunity, enhance accountability, and foster community and parental involvement.

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